• *Petition Process*—Section 612(d) grants the right to any person to petition EPA to add a substance to or delete a substance from the lists published in accordance with section 612(c). The Agency has 90 days to grant or deny a petition. Where the Agency grants the petition, EPA must publish the revised lists within an additional 6 months.

• 90-day Notification—Section 612(e) requires EPA to require any person who produces a chemical substitute for a class I substance to notify the Agency not less than 90 days before new or *existing* chemicals are introduced into interstate commerce for significant new uses as substitutes for a class I substance. The producer must also provide the Agency with the producer's unpublished health and safety studies on such substitutes.

• *Outreach*—Section 612(b)(1) states that the Administrator shall seek to maximize the use of federal research facilities and resources to assist users of class I and II substances in identifying and developing alternatives to the use of such substances in key commercial applications.

• *Clearinghouse*—Section 612(b)(4) requires the Agency to set up a public clearinghouse of alternative chemicals, product substitutes, and alternative manufacturing processes that are available for products and manufacturing processes which use class I and II substances.

## Regulatory History

On March 18, 1994, EPA published the Final Rulemaking (FRM) (59 FR 13044) which described the process for administering the SNAP program and issued EPA's first acceptability lists for substitutes in the major industrial use sectors. These sectors include: refrigeration and air conditioning; foam blowing; solvent cleaning; fire suppression and explosion protection; sterilants; aerosols; adhesives, coatings and inks; and tobacco expansion. These sectors compose the principal industrial sectors that historically consumed the largest volumes of ozone-depleting compounds.

As described in the final rule for the SNAP program (59 FR 13044), EPA does not believe that rulemaking procedures are required to list alternatives as acceptable with no limitations. Such listings do not impose any sanction, nor do they remove any prior license to use a substance. Consequently, EPA is adding substances to the list of acceptable alternatives without first requesting comment on new listings.

ÈPA does, however, believe that notice-and-comment rulemaking is required to place any substance on the list of prohibited substitutes, to list a substance as acceptable only under certain conditions, to list substances as acceptable only for certain uses, or to remove a substance from either the list of prohibited or acceptable substitutes. Updates to these lists are published as separate notices of rulemaking in the **Federal Register**.

The Agency defines a "substitute" as any chemical, product substitute, or alternative manufacturing process, whether existing or new, that could replace a class I or class II substance. Anyone who produces a substitute must provide the Agency with health and safety studies on the substitute at least 90 days before introducing it into interstate commerce for significant new use as an alternative. This requirement applies to substitute manufacturers, but may include importers, formulators or end-users, when they are responsible for introducing a substitute into commerce.

EPA published Notices listing acceptable alternatives on August 26, 1994, and January 13, 1995, and published a Notice of Proposed Rulemaking restricting the use of certain substitutes on September 26, 1994.

## II. Listing of Acceptable Substitutes

This section presents EPA's most recent acceptable listing decisions for substitutes for class I substances in the following industrial sectors: refrigeration and air conditioning, foam blowing, fire suppression and explosion protection; sterilants. These decisions represent substitutes not previously reviewed and add to the lists of acceptable substitutes under SNAP. For copies of the full list, contact the EPA Stratospheric Protection Hotline at the number listed in Section IV of this Notice.

Parts A through C below present a detailed discussion of the substitute listing determinations by major use sector. Tables summarizing listing decisions in this Notice are in Appendix A. The comments contained in Appendix A provide additional information on a substitute, but like the listings themselves, are not regulatory in nature. Thus, adherence to recommendations in the comments are not mandatory for use of a substitute. In addition, the comments should not be considered comprehensive with respect to other legal obligations pertaining to the use of the substitute. However, EPA encourages users of acceptable substitutes to apply all comments to their use of these substitutes. In many instances, the comments simply allude to sound operating practices that have already been identified in existing industry and/or building-code

standards. Thus, many of the comments, if adopted, would not require significant changes in existing operating practices for the affected industry.

## A. Refrigeration and Air Conditioning

Please refer to the final SNAP rule for detailed information pertaining to the designation of end-uses, additional requirements imposed under sections 608 and 609, and other information related to the use of alternative refrigerants.

## 1. Acceptable

a. Volatile Methylsiloxanes. Octamethylcyclotetrasiloxanes and decamethylcyclopentasiloxanesare acceptable as substitutes for CFC-11, CFC-12, CFC-113, CFC-114, CFC-115 in new and retrofitted heat transfer systems. This class of compounds was reviewed under the risk screen for solvent cleaning and was found acceptable. That end-use is generally more emissive than heat transfer uses. Thus, EPA anticipates that VMS will pose lower risk in this end-use.

b. Water. Water is acceptable as a substitute for CFC-11, CFC-12, CFC-113, CFC-114, and CFC-115 in new and retrofitted heat transfer systems.

c. Mineral Oil. *Mineral oil is* acceptable as a substitute for CFC-11, CFC-12, CFC-113, CFC-114, and CFC-115 in new and retrofitted heat transfer systems. Mineral oil has been used for decades as a heat transfer fluid. It is low in toxicity and poses no ozone depletion or global warming potentials. Note that local fire codes may contain requirements related to the use of mineral oil.

d. R-508. R-508, which contains HFC-23 and R-116, is acceptable as a substitute for CFC-13, R-13B1, and R-503 in retrofitted and new industrial process refrigeration. Both components of this blend exhibit extremely high GWPs and long lifetimes. HFC-23 has a GWP of 9,000 and a lifetime of 280 years, and R-116, perfluoroethane, has a GWP of 9,000 and a lifetime of 10,000 years. EPA believes this blend could significantly contribute to global warming if allowed to escape refrigeration systems. In addition, the long lifetimes of R-116 and HFC-23 mean any global warming or other effects would be essentially irreversible. While the current rule issued under section 608 of the CAA does not require recycling and recovery of this blend, or leak repair for systems using it, EPA strongly encourages users to anticipate future rulemakings with voluntary compliance. In particular, EPA urges users to reduce leakage and recover and recycle this blend during equipment